

a control unit determining an operation to convert an input video signal into a video signal of desired format, the determined operation including at least one of a multiplication operation and a division operation; and

a processing unit performing the determined operation based on control signals from the control unit, the processing unit performing the at least one of the multiplication operation and the division operation by shifting in a shifter a value to be one of multiplied and divided.

31. A device for converting a video format, comprising:

a3 a controller determining an input video format, determining a desired output video format and determining a conversion equation from the determined input video format and the determined desired output video format; and

a processing unit converting input video signals from the determined input video format to the determined desired output video format using the conversion equation.--

REMARKS

Reconsideration and allowance of the subject application are respectfully requested.

Claims 4-9 and 11-31 are pending.

The drawings stand rejected to with respect to Fig. 5 for a spelling error therein. Applicants have concurrently submitted a Drawing Change Authorization Request to correct the spelling error in Fig. 5. Applicants respectfully request that the Examiner approve the drawing change, and withdraw this objection.

Claim 1 stands rejected to for a minor informality. Claim 1 has been cancelled rendering this objection moot.

Claims 2-16 stand rejected under 35 U.S.C. § 112, second paragraph, for an antecedent basis problem in claim 2. Claim 2 has been cancelled rendering this rejection moot.

Claims 1-4 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Donovan. Independent claim 1 has been canceled and replaced by new independent claims 24, 29, 30 and 31. Applicants respectfully traverse this art grounds of rejection.

Donovan discloses a method and apparatus for converting computer graphic signals into compatible television video signals by using the scan rate conversion from the three transformation methods of color space conversion, scan rate conversion, and encoding composite waveform. (Background section, Summary section).

The scan rate conversion in Donovan converts a non-interlaced sequence generated by a VGA source into an interlaced sequence.

Conventional scan rate converters, however, have a problem of overscanning in which a portion of the image displayed on a VGA monitor is not displayed on a television monitor. In order to solve the problem, a scale scan rate converter scales the VGA image. However, the scale scan rate converter requires the use of a frame buffer/memory which is large enough to capture an entire graphics frame. Therefore, an object of Donovan lies on solving the problem of requiring a large sized frame buffer/memory.

Referring to FIG. 15 of Donovan, note that the input parameters are stored in the VGA setting table 212 and controlled by the SRC controller 208 (see col. 9, lines 50-67), the scan rate converter 206 determines the television signal parameters by performing a lookup into the parameter table 204 (see col. 10, lines 15-31), for converting a VGA graphic signal on a non-interlaced format into a television signal (NTSC or PAL) on an interlaced format according to a scaling mode.

Although Donovan teaches conversion of a signal on a non-interlaced format into a signal (NTSC or PAL) on an interlaced format using a scaling factor (col. 9, lines 6-22), the claimed invention teaches conversion to a desired format regardless of the input signal being either a non-interlaced signal or an interlaced signal.

In other words, Donovan requires a known input signal in order to perform the conversion operation. Accordingly, Donovan cannot disclose or

suggest “a controller determining an input video format...and determining a conversion equation from the determined input video format and the determined desired output video format,” as recited in claim 31.

Furthermore, while vertical formatting in Donovan is accomplished through filtering, horizontal format conversion is obtained through control of the clock signal. Therefore, Donovan cannot disclose or suggest “a horizontal format converting unit receiving output of the vertical format converting unit, and including, a second operation unit..., and a second control unit...” as recited in claim 29.

Furthermore, with respect to claim 30, Donovan does not disclose or suggest “the processing unit performing the at least one of a multiplication operation and the division operation by shifting in a shifter a value to be one of multiplied and divided,” as recited in claim 30.

Also, with respect to claim 24, Donovan does not disclose or suggest a controller generating control signals based on a determined conversion equation, “a numerator generating unit...configuring to calculate the numerator portion of the conversion equation in response to the control signals,...; and a denominator generating unit...configuring to divide the output of the numerator generating unit by the denominator portion in response to the control signals,” as recited in claim 24.

Further new claims 26-28 dependent upon claim 24 are believed patentable at least for the reasons stated above with respect to claim 24.

Applicant respectfully requests the Examiner to withdraw this art grounds of rejection.

Applicants note with appreciate the Examiner's indication that claims 5-16 would be allowable if rewritten in independent form. Because of the newly added independent claims from which claims 5-16 depend, Applicants have not rewritten the dependent claims at this time.

Applicants also note with appreciation the Examiner's indication that claims 17-23 are allowable.

CONCLUSION

In view of the above, it is believed that this application is in condition for allowance. A favorable action in the form of a Notice of Allowance is earnestly solicited.

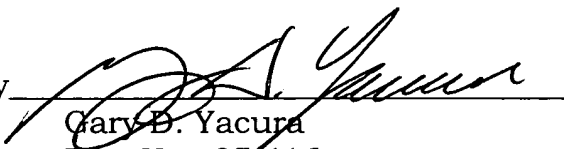
In the event that any outstanding matters remain in this application, Applicant requests that the Examiner contact Gary D. Yacura (Reg. No. 35,416) at (703) 205-8071 to discuss such matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Very truly yours,

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